

REMARKS

The Examiner has, once again, rejected claims 22-30, 32, 34-35 and 37-40 under 35 USC § 103(a) as being unpatentable over British Publication 1,257,827 in view of Kroeker et al., U.S. Patent No. 4,969,643. In order to more particularly define the invention for which protection is sought, applicant has amended the claims now pending in the above-identified application. It is now believed that the claims clearly define over the cited references, and reconsideration of the Examiner's rejection under 35 USC § 103(a) is respectfully requested in view of the following comments.

Claim 22 defines a dampening cylinder having a cylindrical housing, a piston slidably extending through a cavity in the housing and a flange projecting from the piston so as to divide the cavity in the housing into first and second portions. A flow conduit has a first end communicating with the first portion of the cavity and a second end communicating with the second portion of the cavity. The flow conduit includes first and second control valves for controlling the flow of fluid between the first and second portions of the cavity. Each flow control valve includes a flow regulator having a plurality of user selectable discrete settings for controlling the flow rate at which the fluid flows between the first and second portions of the cavity and for providing a discrete metered fluid flow through a corresponding flow control valve. As hereinafter described, neither of the cited references shows or suggests a dampening cylinder wherein flow regulators control the rate of fluid flowing between the first and second portions of the cavity in the housing. Consequently, it is believed that independent claim 22 defines over the cited references.

The British '827 publication discloses a device for balancing the forces inertia of reciprocating stands of cold rolling mills. As best seen in Figures 2 and 3, an air cylinder is provided having a piston slidably received therein which defines first and second working spaces in the cylinder. The work spaces are interconnected by a conduit that includes first and second

maximum pressure valve and a bypass valve. It is intended that the pressure in each working space be equal. As such, the pressure valves and the bypass valves disclosed in the British '827 publication merely provide a mechanism for controlling the pressure at which pressure valves 35 open. The British '827 publication provides no mechanism for controlling the rate of air flow through the conduit interconnecting the first and second work spaces or for providing a discrete metered fluid flow thereto. More specifically, unlike the dampening cylinder of independent claim 22, there is no structure disclosed in the British '827 publication that controls the flow rate of the fluid passing between the first and second working spaces in the cylinder.

The Kroeker et al., '643 patent is directed to an improved exercise apparatus. The exercise apparatus includes a hydraulic cylinder having a piston passing therethrough. A ring or collar about the piston separates the interior of the cylinder to the first and second portions. Outlet lines are connected to each portion of the cylinder and includes fluid control means for constricting the flow of fluid from each portion of the cylinder. In addition, the hydraulic cylinder includes first and second inlet lines operatively connected to a reservoir. Each portion of the cylinder draws fluid from the reservoir in response to a suction generated by operation of the hydraulic cylinder. However, unlike the dampening cylinder of independent claim 22, the fluid does not flow between the first and second portions of the cylinder. Further, unlike the dampening cylinder of independent claim 22 that requires the flow regulators to control the flow rate of fluid flowing between the first and second portions of the cavity in the housing of the cylinder, the flow regulators disclosed in the Kroecker et al., '643 patent merely controls the rate at which the fluid exits the corresponding portions of the interior of the cylinder thereof. The flow regulators cannot control the flow rate of the fluid flowing between the first and second portions of the interior of the cylinder, as required by independent claim 22, since all of the fluid exiting the first and second portions of the interior of the cylinder is deposited in a reservoir.

In view of the foregoing, it is believed that neither of the cited references shows or suggests a dampening cylinder as defined in independent claim 22 of the present application. As such, it is believed that independent claim 22 is in proper form for allowance and such action is earnestly solicited.

Claims 23-29 depend either directly or indirectly from independent claim 22 and further define a dampening device not shown or suggested in the prior art. It is believed that claims 23-29 are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

Claim 30 defines a dampening cylinder incorporating a cylindrical housing and a piston slidable through the housing. The housing includes first and second openings therein. The first conduit has the first end connected to the first opening in the housing for communicating with the first portion of the cavity in the housing and a second conduit having a first end connected to the second opening in the housing for communicating with the second portion of the cavity in the housing. A control valve structure is disposed between the first and second conduits to control the flow of fluid between the first and second portions of the cavity in the housing. The control valve structure includes first and second flow control valves in series between the first and second conduits. The first flow control valve includes a flow regulator having a plurality of user selectable settings and is movable into the first flow path. The flow regulator provides a discrete metered fluid flow through the first flow path and controls the flow rate of the fluid flowing from the first portion to the second portion of the cavity in the housing. The second flow control valve includes a flow regulator having a plurality of user selected settings and is movable into the first flow path of the second flow control valve. The flow regulator provides a discrete metered fluid flow through the first flow path in controls the flow rate of the fluid flowing from the second portion to the first portion of the cavity in the housing.

As heretofore described with respect to independent claim 30, neither of the cited references shows or suggests a dampening cylinder that incorporates flow regulators to control the flow of fluid between the first and second portions of the cavity in the housing of the dampening cylinder. Hence, it is believed that independent claim 30 defines over the cited references and passage to allowance is respectfully requested.

Claims 32, 34-35 and 37 depend either directly or indirectly from independent claim 30 and further define a dampening cylinder not shown or suggested in the prior art. It is believed that such claims are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

Similar to claim 30, claims 38 and 40 define a dampening cylinder that incorporates first and second flow regulators that control the flow rate of fluid flowing between the first and second portions of the cavity of the housing in the cylinder. As heretofore described, neither of the cited references show or suggest such a structure. As a result, it is believed that independent claims 38 and 40 define over the cited references and passage to allowance is respectfully requested.

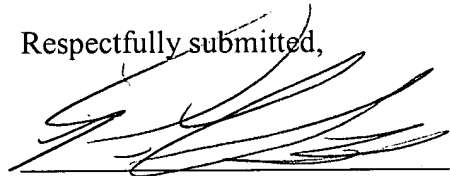
Claim 39 depends either directly or indirectly from independent claim 38 and further defines a dampening cylinder not shown or suggested in the prior art. It is believed that claim 39 is allowable as depending from an allowable base claim and in view of the subject matter of each claim.

Applicant believes that the present application with claims 22-30, 32, 34-35, and 37-40 is in proper form for allowance and such action is earnestly solicited.

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Inventor: Edmund W. Brown
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The Applicant believes there are no fees associated with this transmission. However, the Commissioner is hereby authorized to charge payment of any fee associated with this or any other communication or credit any overpayment to Deposit Account No. 50-1170.

Respectfully submitted,



Peter C. Stomma, Reg. No.36,020

Dated: 9/26/03
BOYLE, FREDRICKSON, NEWHOLM,
STEIN & GRATZ, S.C.
250 Plaza, Suite 1030
250 East Wisconsin Avenue
Milwaukee, WI 53202
Telephone: (414) 225-9755
Facsimile: (414) 225-9753
Docket No.: 328.002